



U.S. Department of Transportation

SDI | SAFETY DATA INITIATIVE

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Office of the Under Secretary for Policy
U.S. Department of Transportation

Safety Data Forum 2.0
April 9, 2019

Systemic Safety Approach

STRATEGIES



Improve the collection, management, and integration of **data**



Identify risks that contribute to fatalities and serious injuries



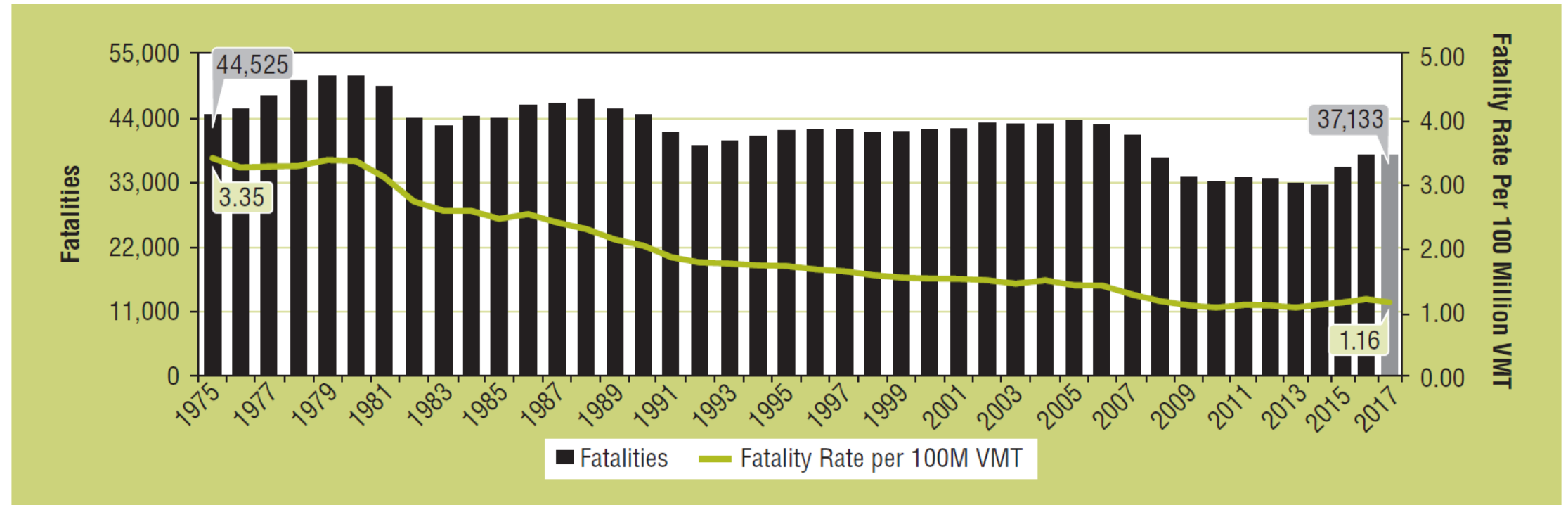
Collaborate with stakeholders to foster changes to the transportation ecosystem

U.S. Department of Transportation
Strategic Plan for FY 2018-2022



The Problem | We need better data analysis tools to understand what is happening on our roadways.

Fatalities and Fatality Rate per 100 Million VMT, by Year, 1975–2017



Sources: FARS 1975–2016 Final File, 2017 ARF; Vehicle Miles Traveled (VMT): FHWA.

The Vision



Evolve from **retrospective to predictive analysis** that is transformed into **compelling visualizations** of insights to better target safety risk.



Develop an **integrated data eco-system for rapid, rigorous, and innovative safety data analysis and insights** using new datasets and new analytic tools across surface transportation modes, accessible to decision-makers to support policy decisions.



Be a **leader in Safety Risk Management** by working with transportation stakeholders and leveraging **innovative data sources and practices.**

Safety Data Initiative has **3** focus areas



Data Integration

Integrate existing DOT databases and new private sector data sources to answer safety questions



Data Visualization

Create clear, compelling data visualizations to make data accessible and insightful for policy makers and practitioners



Predictive Insights

Reduce injuries and fatalities by identifying risk patterns and developing insights to anticipate and mitigate safety risk

Safety Data Initiative Projects

 Solving for Safety Visualization Challenge

 FARS Data Visualization

 Waze Pilot

 Rural Speed Pilot

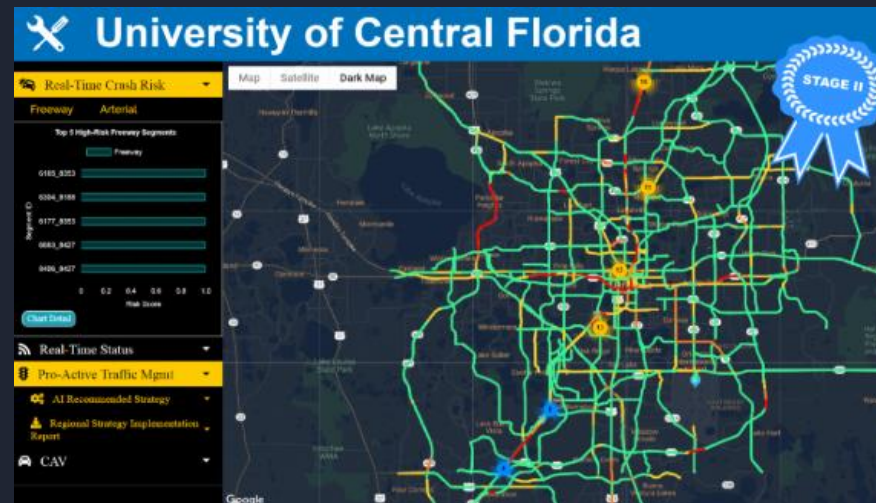
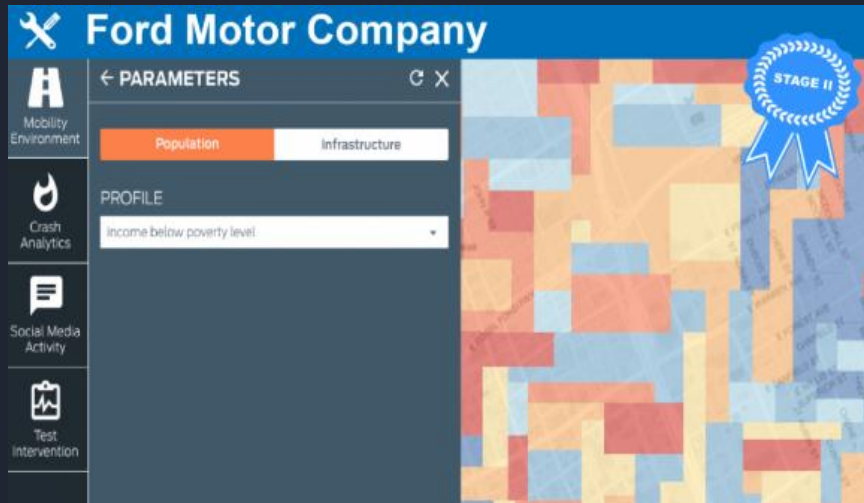
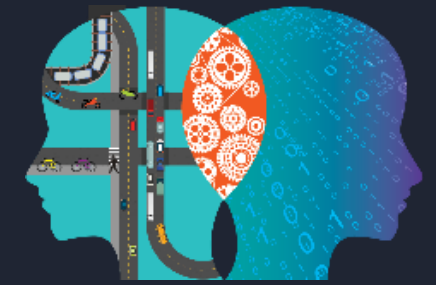
 Pedestrian Fatalities Pilot

 Safety Data Factoids



Solving for Safety Visualization Challenge

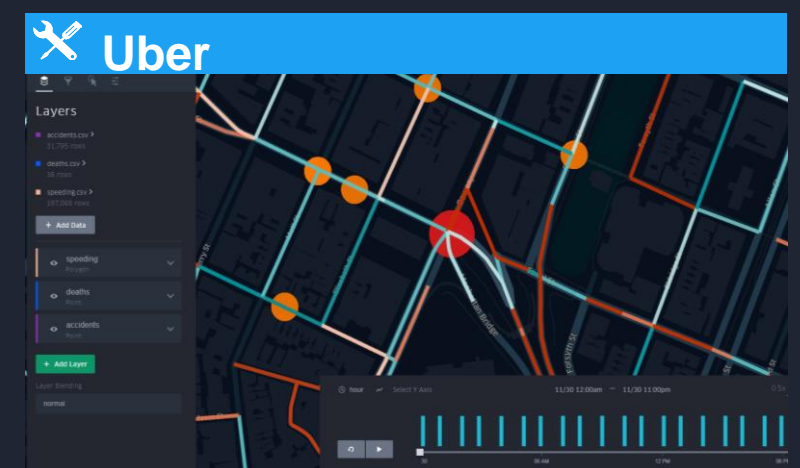
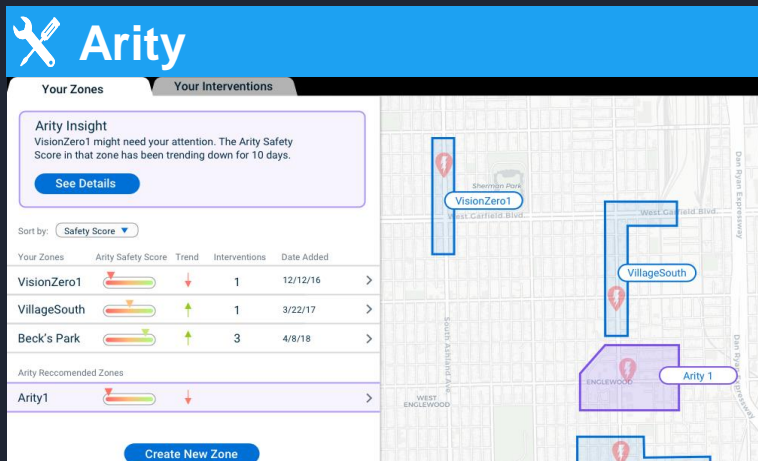
Competition to develop innovative analytical visualization tools that reveal insights into reducing serious crashes.



5 Semi-finalists



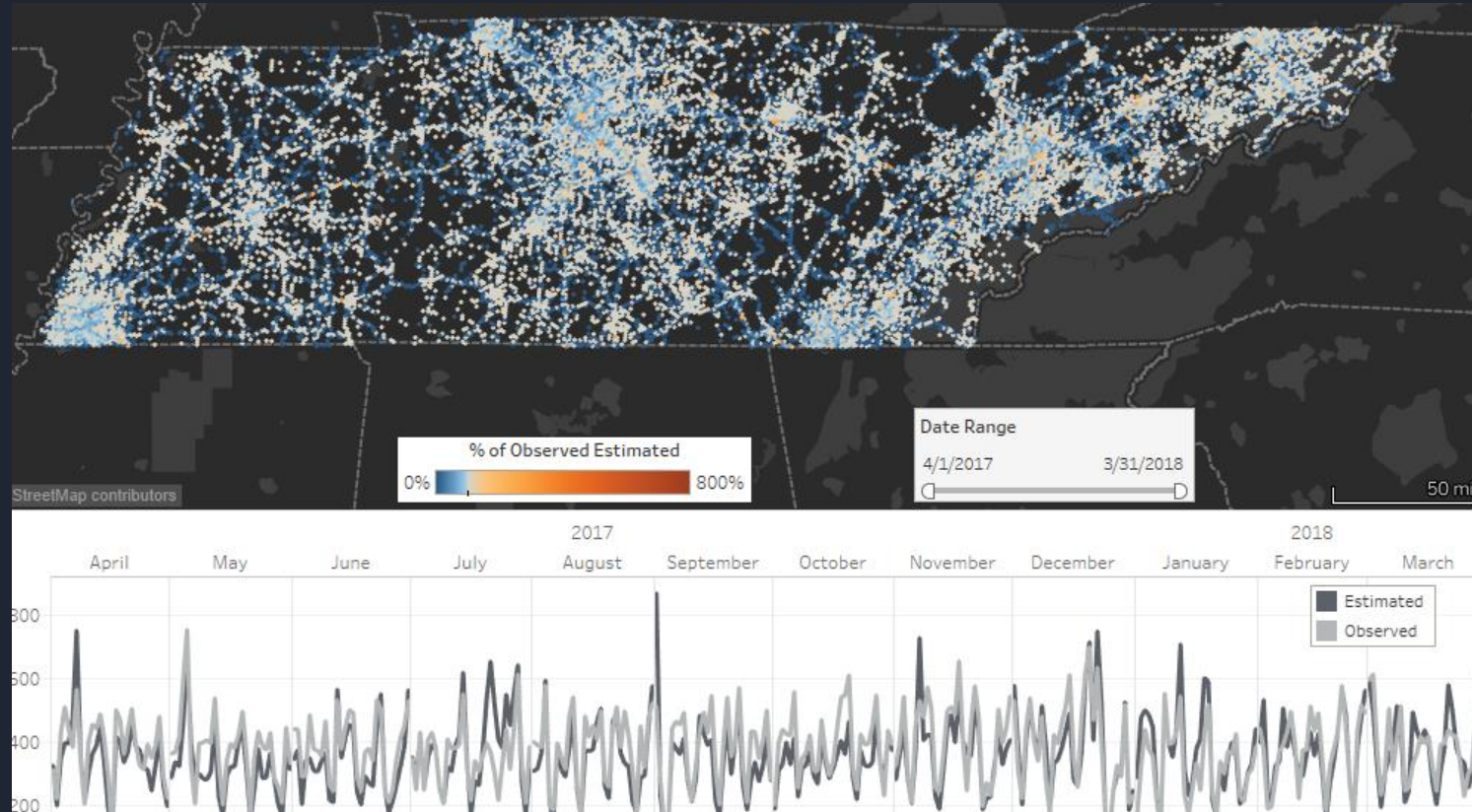
2 Finalists





Waze Pilot

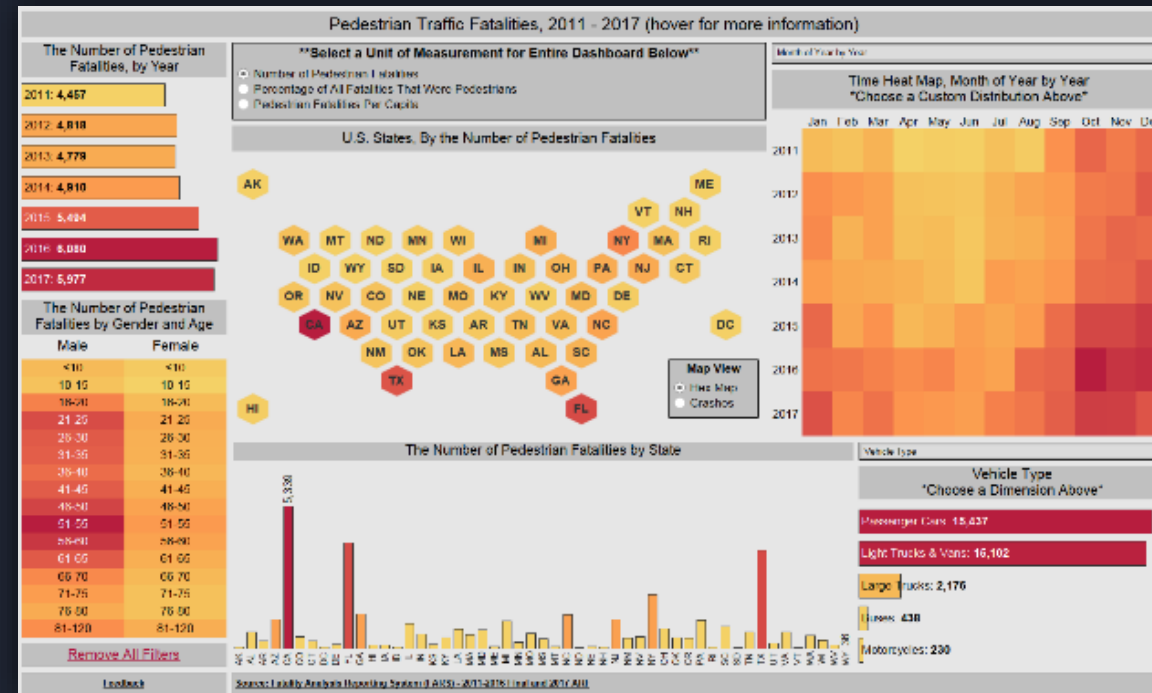
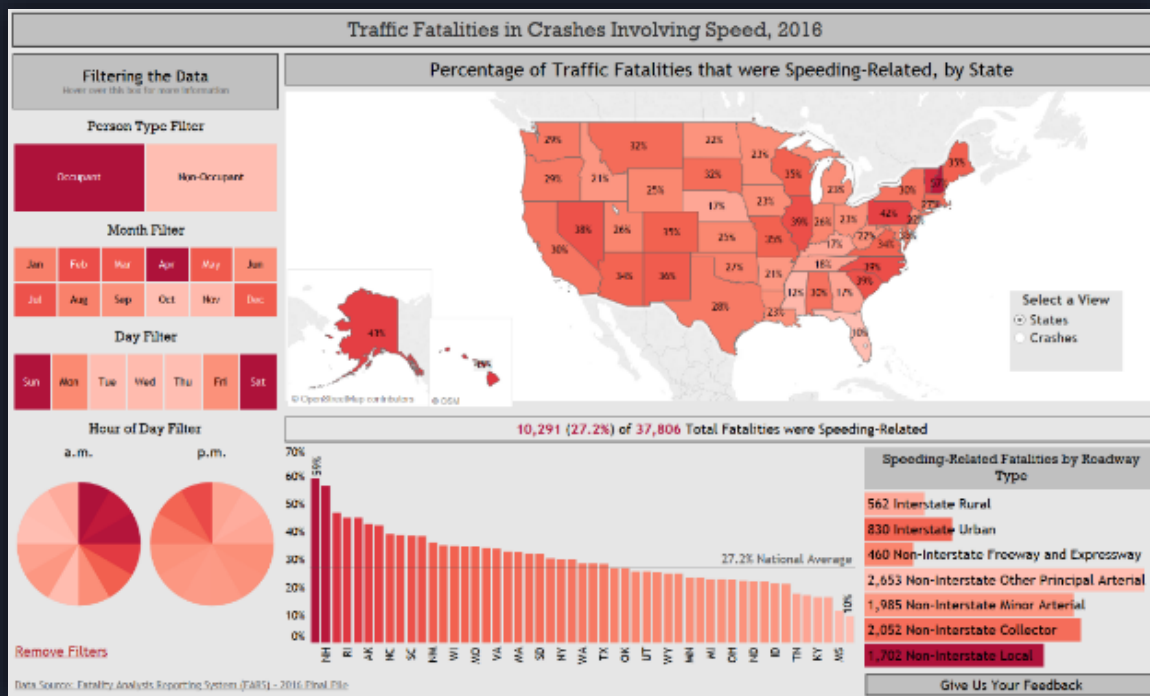
The Volpe Center used **machine learning** to correlate Waze data with crashes, and is working with case studies to apply Waze in State and local contexts.





FARS Data Visualizations

Two NHTSA visualizations of its Fatality Analysis Reporting System (FARS) data **focus on speeding and pedestrian safety.**



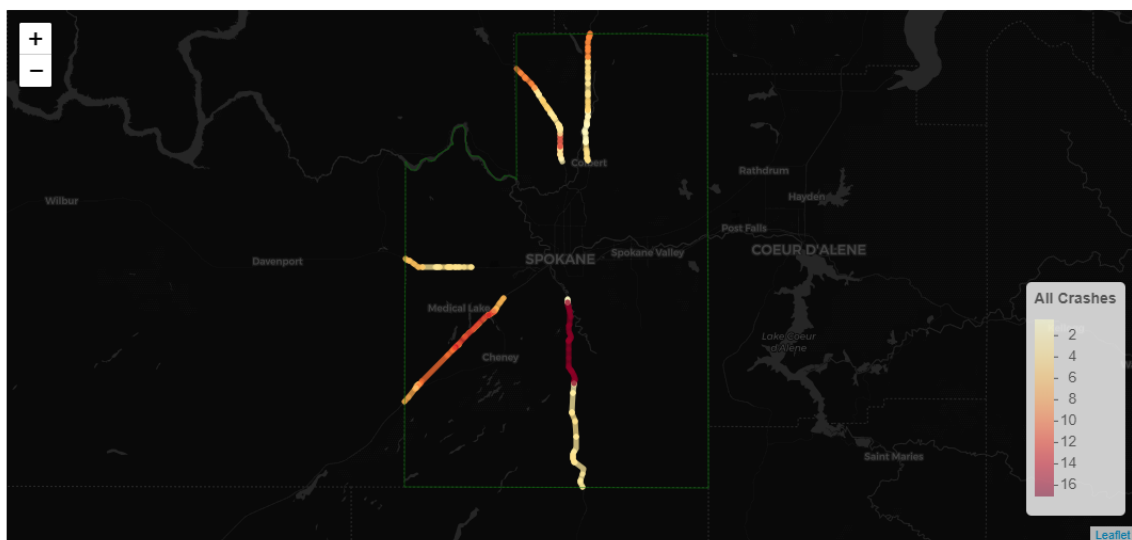
Available online: <http://bit.ly/SpeedingFARSViz> and <http://bit.ly/PedFARSViz>



Rural Speed Pilot

A partnership with the Texas A&M Transportation Institute seeks to **better understand the contribution of travel speed to the prevalence and severity of crashes** on rural highways in OH and WA.

Rural Speed Safety Pilot Project Tool (Prototype)



Year: 2015

State: WA

County: Spokane County

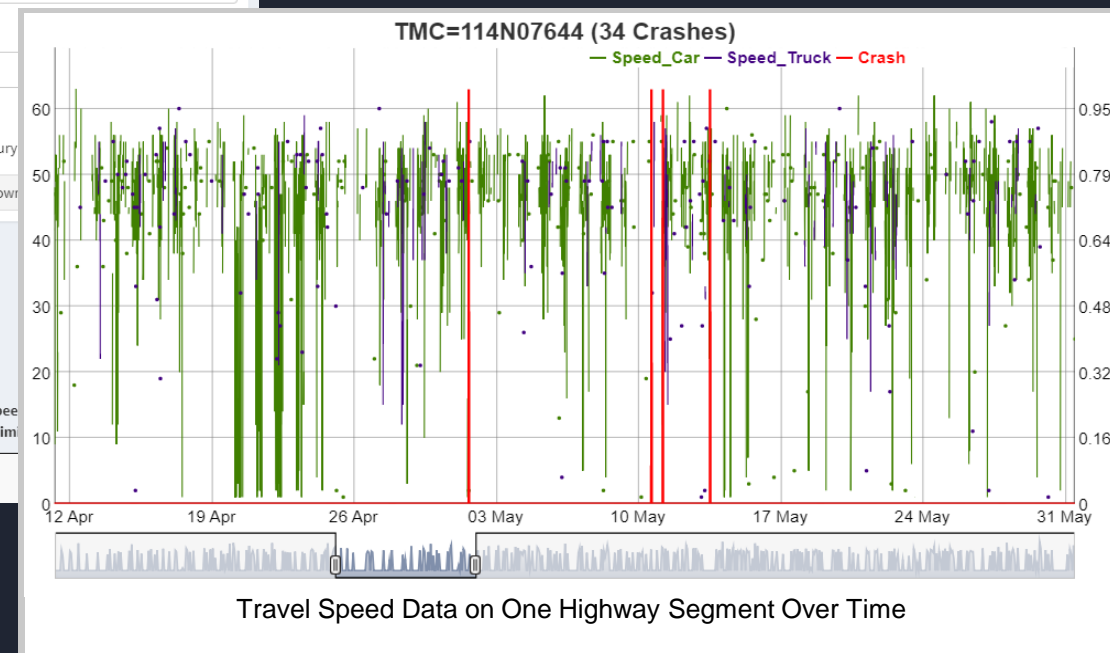
Facility: All

Severity: ☒ All ☐ Fatal and Injury

[Refresh Map](#) [Download](#)

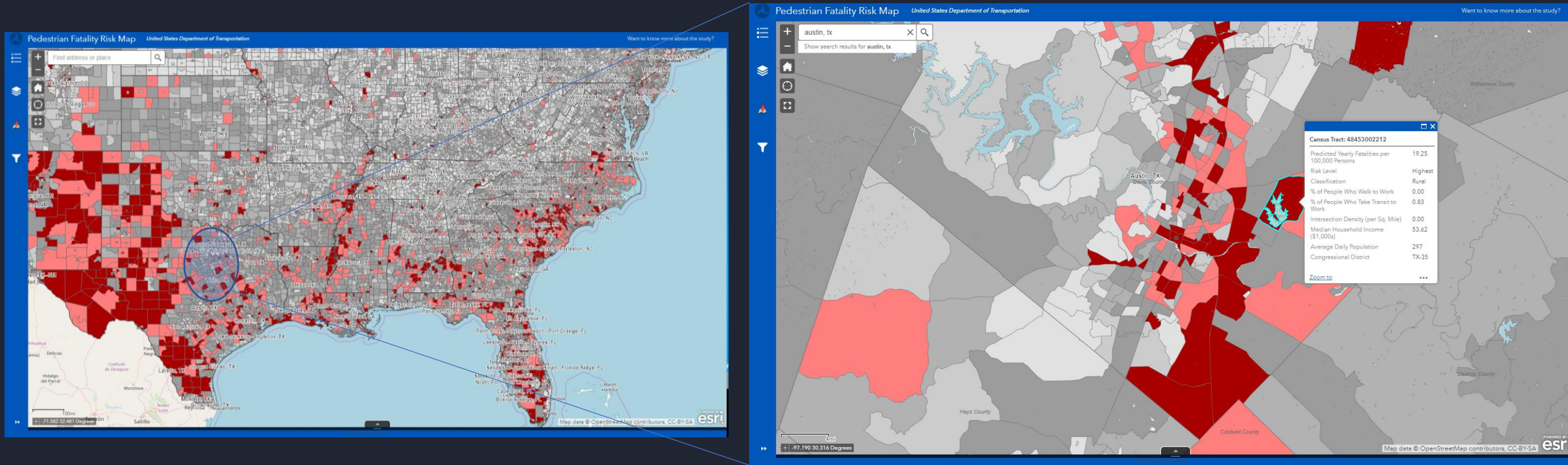
Show 10 entries

	State	County	TMC	Road	Facility	Segment Length	Population	Household	Total - Expected	Fatal and Injury - Expected	AADT	Number of Lanes	Speed Limit
1	WA	Spokane County	114N04561	I-90	Interstate	6.26072	336	130	8.38	2.02	19668.85	4	



Pedestrian Fatalities Pilot

A **national risk model** at the U.S. Census tract level leveraging transportation system and built environment characteristics from multiple data sources.



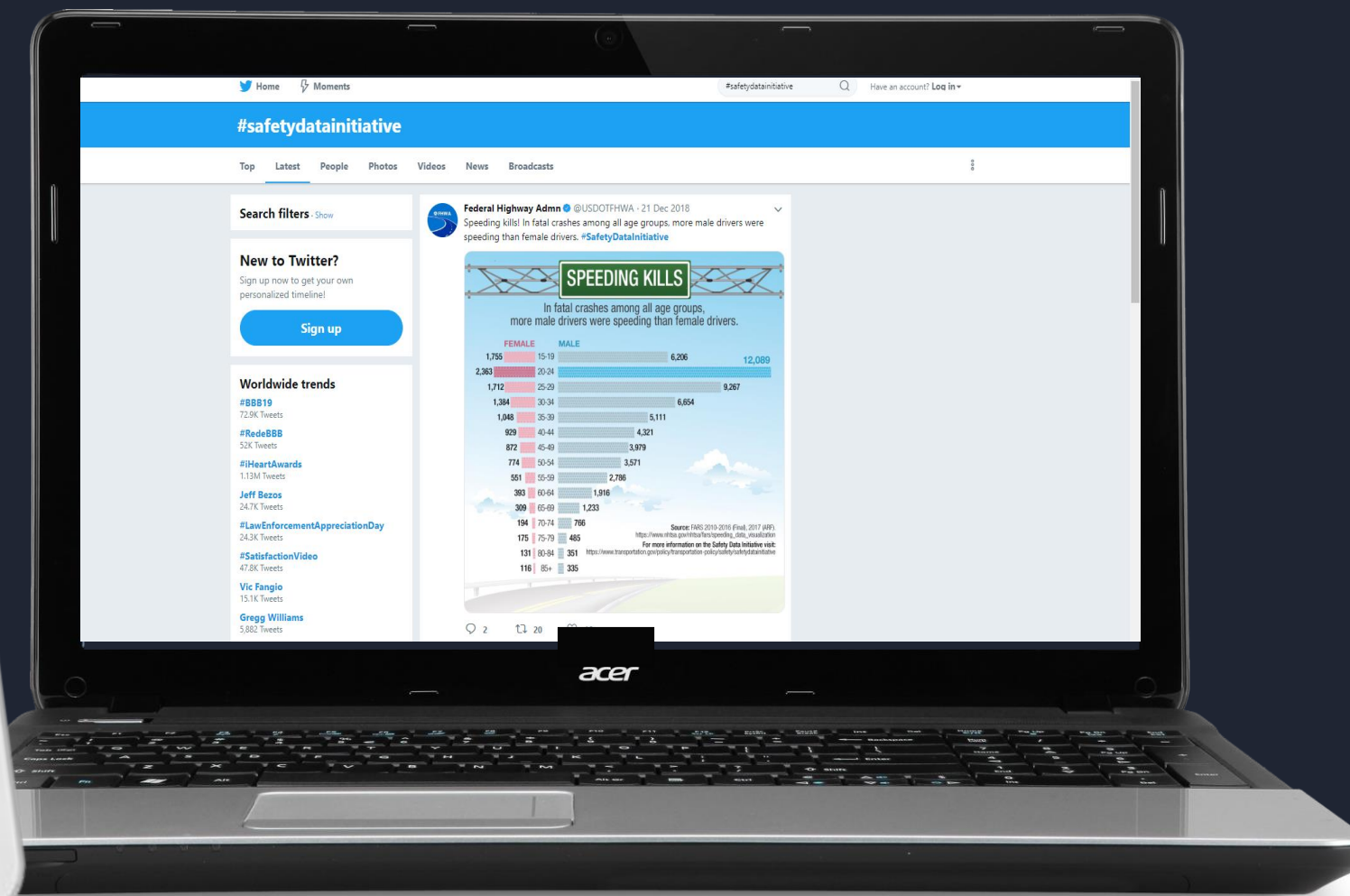
Available online: <https://maps.dot.gov/BTS/PedestrianFatalityModel/>

www.transportation.gov/SafetyDataInitiative



Safety Data Factoids

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Expert Panel and Next Steps



Critically assessing and validating SDI work done to date to affirm that they are:

- Innovative
- Not Duplicative
- Analytically and Statistically Valid
- Value-Add to State and Local Governments






Tomorrow: Convening an Expert Panel



We want to solicit your input to help with our next steps today



Look forward to formulating great ideas later today!

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